5. Public Support

In December 2003, the town of Beaver passed a resolution in favor of the Range On-alignment Alternative. According to comments from public meetings in February and June 2003, public support for the Range On-alignment Alternative was mixed.

6. Summary of Purpose and Need

Table 2.2.4.3-2 summarizes how the Range On-alignment Alternative addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.3-2

Range On-alignment
Summary Purpose and Need Analysis

Criteria	Range On-alignment Alternative
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Town of Apple River	No
Town of Beaver	Yes
Area Residents and Businesses	Yes and No
US 8 Coalition	No

- **Range Northern Realignment** (carried forward for detailed study)

A. Description of Alternative

The Range Northern Realignment Alternative follows the same alignment as the On-alignment Alternative from County E to just east of 70th Street at Twin Lakes. There the corridor swings north on a new alignment and continues easterly north of Range. The new alignment portion is approximately one-quarter mile (0.40 km) north of existing US 8. The new corridor then swings south to rejoin the existing alignment about a half mile (0.8 km) east of 56th Street. The total length for the Northern Realignment Alternative is 3.3 miles (5.3 km), with 1.7 miles (2.8 km) off-alignment. Where the portion of the alternative is off of existing alignment, existing US 8 would be converted to a local roadway. There would be no grade-separated crossings.

B. Projected Effects of Alternative

Similar to the Range On-alignment Alternative, this alternative would utilize the existing roadway east and west of Range. The existing roadway would be used for the two eastbound lanes and two new lanes would be built north of the existing road and for westbound vehicles. The off-alignment portion of this alternative requires a completely new four-lane divided roadway that is constructed one-quarter mile (0.40 km) north of Range. This alternative would require crossings of two unnamed water bodies north of Range and a new structure crossing of Twin Lakes for the second roadway.

The Northern Realignment Alternative does not impact any historical or archaeological sites but would require acquisition of upland and agricultural land north of Range. The total amount of agricultural land needed for this alternative is about the same as the Range On-alignment Alternative (30 acres or 12.1 ha), substantially less than the Range Southern Realignment Alternative, as discussed in the next section. There are more impacts to forested areas, compared to the Range On-alignment and Range Southern Realignment Alternatives. The number of

relocations decreases substantially as compared to the Range On-Alignment Alternative. There would be impacts to the Dairyland Power utility. Access controls would be implemented as part of the alternative.

Table 2.2.4.3-3 details the land requirements and relocations for the Range Northern Realignment Alternative.

Table 2.2.4.3-3

Range Northern Realignment
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	30	12.1
Wetlands	9.6	3.9
Wooded	48.9	19.8
Other	30.9	12.5
Total New Right-of-Way	119.4	48.3
Relocations	1 Businesses, 6 Residential	
Dairyland Power Cooperative	$0	

C. Purpose and Need Analysis

The Range Northern Realignment Alternative Purpose and Need Analysis is the same as the Range On-alignment purpose and need criteria (1. through 4.). The Public Support for this alternative differs from that of the On-alignment Alternative.

5. Public Support

Landowners located south of Range initiated the conceptual idea for a north Range Alternative and they favor the Range Northern Realignment. Residents located north of existing US 8 do not favor this alternative. The US 8 Coalition voted in favor of the Range Northern Realignment Alternative.

6. Summary of Purpose and Need

Table 2.2.4.3-4 summarizes how the Range Northern Realignment addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.3-4

Range Northern Realignment
Summary Purpose and Need Analysis

Criteria	Range Northern Realignment Alternative
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Town of Apple River	No
Town of Beaver	No
Area Residents and Businesses	Yes and No
US 8 Coalition	Yes

- **Range Southern Realignment** (carried forward for detailed study)

A. Description of Alternative

The Range Southern Realignment Alternative swings south just east of County E and continues easterly until just east of County D. There it swings north to return to the existing alignment just east of 56th Street. The new alignment portion of this alternative is approximately 1,600 feet (487.7 m) south of existing US 8. The total length for the Southern Realignment Alternative is 3.3 miles (5.3 km), with 2.4 miles (3.8 km) off-alignment. Similar to the Range Northern Realignment Alternative, existing US 8 would be converted to a local roadway where the four-lane alternative is on new alignment. This alternative would not construct any grade-separated crossings.

B. Projected Effects of Alternative

Similar to both the Range On-alignment and the Range Northern Realignment Alternatives, this alternative would utilize the existing roadway east and west of Range. The existing roadway would be used for the two eastbound lanes and two new lanes would be built north of the existing road and for westbound vehicles. The off-alignment portion of this alternative requires a completely new four-lane divided roadway constructed 0.3 mile (0.5 km) south of Range. This alternative would avoid crossing Twin Lakes. New crossings of two small, unnamed water bodies would be required.

The Range Southern Realignment Alternative does not have any impacts to historical or archaeological sites. Agricultural land (87.6 acres or 35.5 ha) south of Range and some farms would be fragmented. The number of relocations for the Range Southern Realignment is comparable to the Range Northern Realignment Alternative and lower than the Range On-alignment Alternative. Relocation costs for Dairyland Power utilities ($225,000) are the highest of the three alternatives in Segment III. Access controls would be implemented as part of the alternative.

Table 2.2.4.3-5 details the land requirements and relocations for the Range Northern Realignment Alternative.

Table 2.2.4.3-5

Range Southern Realignment
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	87.6	35.5
Wetlands	4.9	2
Wooded	14.6	5.9
Other	26.5	10.7
Total New Right-of-Way	133.6	54.1
Relocations	0 Businesses, 5 Residential	
Dairyland Power Cooperative	$225,000	

C. Purpose and Need Analysis

Similar to the Range Northern Realignment Alternative, the Range Southern Realignment satisfies the same purpose and need criteria (1. through 4.) as the Range On-alignment Alternative. Public Support is mixed for this alternative.

5. Public Support

Town of Apple River officials indicated their constituents prefer the Southern Realignment. The Town of Apple River has passed a motion supporting the Range Southern Realignment. The Town of Beaver does not support this alternative.

6. Summary of Purpose and Need

Table 2.2.4.3-6 summarizes how the Range Southern Realignment Alternative addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.3-6

Range Southern Realignment
Summary Purpose and Need Analysis

Criteria	Range Southern Realignment Alternative
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Town of Apple River	Yes
Town of Beaver	No
Area Residents and Businesses	Yes and No
US 8 Coalition	No

2.2.4.4 Segment IV (50th Street to 15th Street)

Segment IV extends from 50th Street to 15th Street and has two alternatives. The first alternative follows the existing alignment for the entire segment. The second alternative includes a northern realignment near County V to avoid potential impacts to the Joel Flowage that is located south of US 8. Figure 2.2.4.4-1 illustrates this segment.

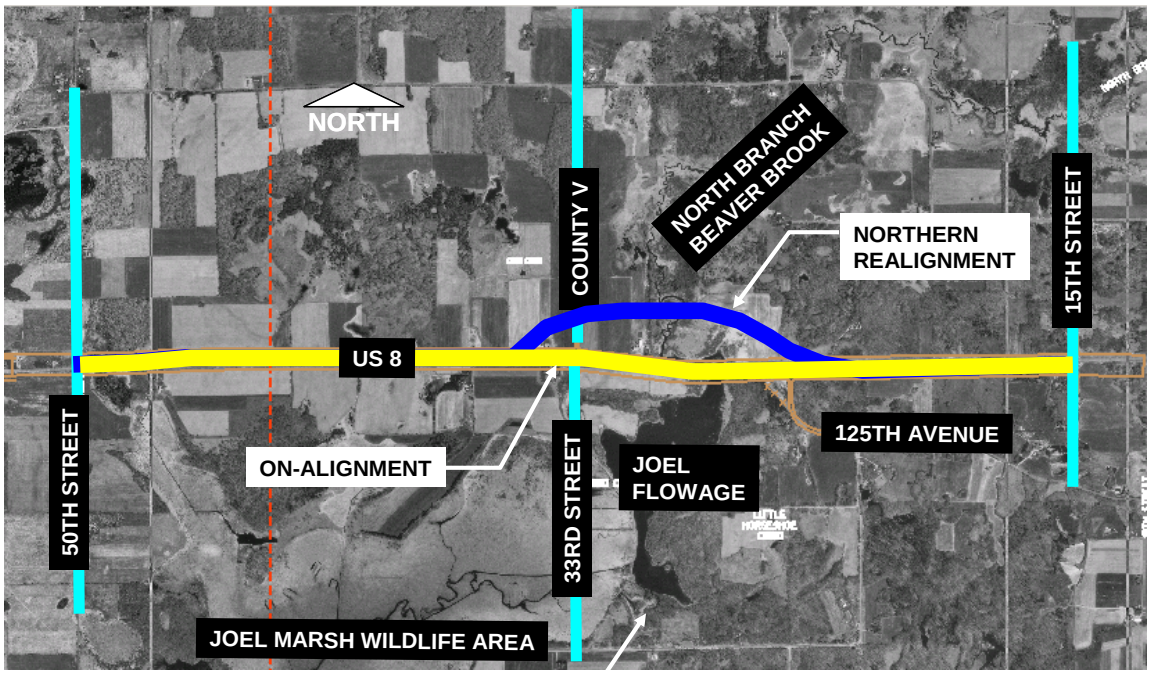

Figure 2.2.4.4-1 Segment IV – 50th Street to 15th Street

- **Joel Flowage On-Alignment** (carried forward for detailed study)

A. Description of Alternative

The Joel Flowage On-alignment Alternative follows the existing alignment from 50th Street to 15th Street. The existing highway is utilized as either eastbound or westbound lanes for the alternative. The total length for the Joel Flowage On-alignment Alternative segment is 3.5 miles (5.7 km). This alternative does not include any grade-separated crossings.

B. Projected Effects of Alternative

Between 50th Street and 125th Street, the Joel Flowage On-alignment Alternative would use the existing lanes for eastbound vehicles and build new westbound lanes north of the existing roadway. The expansion to the north would avoid impacts to the Joel Marsh Wildlife Area on the south side of US 8. From 125th Avenue to 15th Street, the On-alignment Alternative uses the existing roadway as westbound lanes and would build new eastbound lanes on the south side of existing US 8. This alternative would require one new structure over Joel Flowage. Access controls would be implemented as part of the alternative.

This alternative does not impact any historical or archaeological sites. Although this alternative is near the Joel Marsh Wildlife Area, the corridor is shifted so that it avoids this public land. Wetland impacts are minimized, with the exception of the Joel Flowage crossing.

Table 2.2.4.4-1 illustrates land requirements and relocations for the Joel Flowage On-alignment Alternative.

Table 2.2.4.4-1

Joel Flowage On-alignment
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	40.9	16.6
Wetlands	15.5	6.3
Wooded	7.5	3.0
Other	28.4	11.5
Total New Right-of-Way	92.3	37.4
Relocations	2 Businesses, 8 Residential	
Dairyland Power Cooperative	$0	

C. Purpose and Need Analysis

1. Corridors 2020 and Future LOS

Traffic volumes in Segment IV are projected to grow from about 6,370 ADT to about 9,900 ADT in the design year 2030. According to WisDOT's FDM, a four-lane divided roadway should adequately handle between 8,700 and 44,000 ADT. Therefore, this alternative gives this section the capacity to handle projected traffic.

2. Long-Term Planning and Corridor Preservation

This alternative addresses long-term planning by defining the future location and type of access along US 8. This information can be used by local governmental units along the corridor in developing local transportation and comprehensive plans and determining the appropriate location of transportation supportive land uses. This alternative anticipates the future need for expanding US 8 to accommodate additional traffic. This alternative identifies a future corridor for US 8 that can be preserved through official mapping and access management.

3. Crash Rate Reduction

Between 1996 and 2000, the crash rate for this segment was below the statewide average crash rate. With this alternative, crash rates for this alternative will likely decrease. Studies indicate that converting a two-lane roadway to a four-lane divided facility could potentially decrease crashes by 40 to 60 percent.[5] Also, crash rates for a four-lane divided roadway indicate they are safer than a two-lane rural roadway. Between 1996 and 2000, the average crash rate in Wisconsin for a two-lane roadway is 180 crashes per HMVM. The crash rate for a four-lane divided highway for the same time period is 76 per HMVM. Fatality crash rates between 1996 and 2000 decreased from 1.8 per HMVM on a two-lane roadway to 0.5 per HMVM on a four-lane divided roadway. Crash rates may also decrease because of limited access points onto the expressway.

4. Correct Substandard Roadway Items

Currently, there are no identified substandard geometric-roadway items on this portion of US 8. Therefore, the Joel Flowage On-alignment will continue to meet all required standards established by WisDOT.

5. Public Support

The Town of Beaver and the Town of Apple River both supported the On-alignment Alternative to reduce impacts to property, farms, and buildings. The US 8 Coalition voted in favor of the Joel Flowage On-alignment Alternative when they compared the On-alignment with the No-build.

6. Summary of Purpose and Need

Table 2.2.4.4-2 summarizes how the Joel Flowage On-alignment Alternative addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.4-2

Joel Flowage On-alignment
Summary Purpose and Need Analysis

Criteria	Joel Flowage On-alignment Alternative
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Town of Apple River	Yes
Town of Beaver	Yes
Area residents and businesses	Yes and No
US 8 Coalition	Yes

- **Joel Flowage Northern Realignment** (carried forward for detailed study)

A. Description of Alternative

The Joel Flowage Northern Realignment Alternative was suggested by WDNR as an alternative that would avoid impacts to the Joel Flowage Marsh south of existing US 8. The alternative follows the

[5] Safety Effects of the Conversion of Rural Two-Lane to Four-Lane Roadways Based on Cross sectional Models, Forrest M Council and J. Richard Stewart, 1998.

existing US 8 alignment from 50th Street to just west of 33rd Street (County V). There the corridor swings north on a new alignment and then continues easterly for approximately 0.7mile (1.1 km). It swings south to rejoin the existing highway 0.5 mile (0.8 km) east of 125th Avenue. The new alignment portion is approximately 1000 feet (304.8 m) north of existing US 8. The total length for the Joel Flowage Northern Realignment Alternative segment is 3.6 miles (5.8 km), with 1.4 miles (2.2 km) off-alignment. Where the portion of the alternative is off existing alignment, existing US 8 would be converted to a local roadway. There would be no grade-separated crossings.

B. Projected Effects of Alternative

From 50th Street to about County V, the Joel Flowage Northern Realignment would use the existing roadway as eastbound lanes and the new roadway north of existing US 8 would carry westbound vehicles. An expanded roadway to the north would avoid impacts to the Joel Marsh Wildlife Area south of US 8. The realignment would require a new crossing of the North Branch Beaver Brook but would avoid the need for an additional crossing of the Joel Flowage required in the On-alignment Alternative. East of 125th Avenue, the alignment would use the existing roadway as westbound lanes and the new lanes are constructed along the south side of US 8 to 15th Street.

This alternative does not impact any historical or archaeological sites and relocation. An additional 18 acres (7.2 ha) of agricultural lands would be needed for the Northern Realignment Alternative compared with the On-alignment Alternative. Although this alternative is near the Joel Marsh Wildlife Area, the corridor is shifted so that it avoids this public land. Wetland impacts are minimized, with the exception of the North Branch Beaver Brook crossing. Access controls would be implemented as part of the alternative. There would be no impacts to the Dairyland Power Cooperative utility. Table 2.2.4.4-3 illustrates land requirements and relocations for the Joel Flowage Northern Realignment Alternative.

Table 2.2.4.4-3

Joel Flowage Northern Realignment
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	58.9	23.8
Wetlands	11.4	4.6
Wooded	13	5.3
Other	36.5	14.8
Total New Right-of-Way	119.8	48.5
Relocations	1 Businesses, 6 Residential	
Dairyland Power Cooperative	$0	

C. Purpose and Need Analysis

The Joel Flowage Northern Realignment satisfies the same purpose and need criteria (1. through 4.) as the Joel Flowage On-alignment Alternative.

5. Public Support

The Joel Flowage Northern Realignment Alternative was added at the request of the WDNR. This occurred after alternatives were presented to the public at the 2003 information meetings. As a result, the public has not had the PIM type of opportunity to comment on this alternative. A project newsletter published in August 2004 and sent to nearly 8,000 area addresses presented the new alternative. The WisDOT Web site also presented the new information.

6. Summary of Purpose and Need

Table 2.2.4.4-4 summarizes how the Joel Flowage Northern Realignment Alternative addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.4-4

Joel Flowage Northern Realignment
Summary Purpose and Need Analysis

Criteria	Deer Lake Far Southern Realignment Alternative
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support	Undetermined

2.2.4.5 Segment V (15th Street to 5th Street)

Segment V begins at 15th Street west of the Village of Turtle Lake and ends at 5th Street east of Turtle Lake. This segment has four alternatives that include three bypass routes around Turtle Lake and one through-town route. Alternatives 1, 2, and 3 are four-lane rural expressway bypass corridors. These corridors are 600-feet (182.9 m) wide when off existing US 8 alignment and 400 feet (121.9 m) wide when they rejoin existing US 8 alignment. Alternative 4 is a 400-foot (121.9 m) wide corridor on existing alignment outside the urban area of Turtle Lake and a 120-foot (36.6 m) wide urban corridor on existing alignment through town. Figure 2.2.4.5-1 illustrates the bypass and through-town route alternatives for this segment.

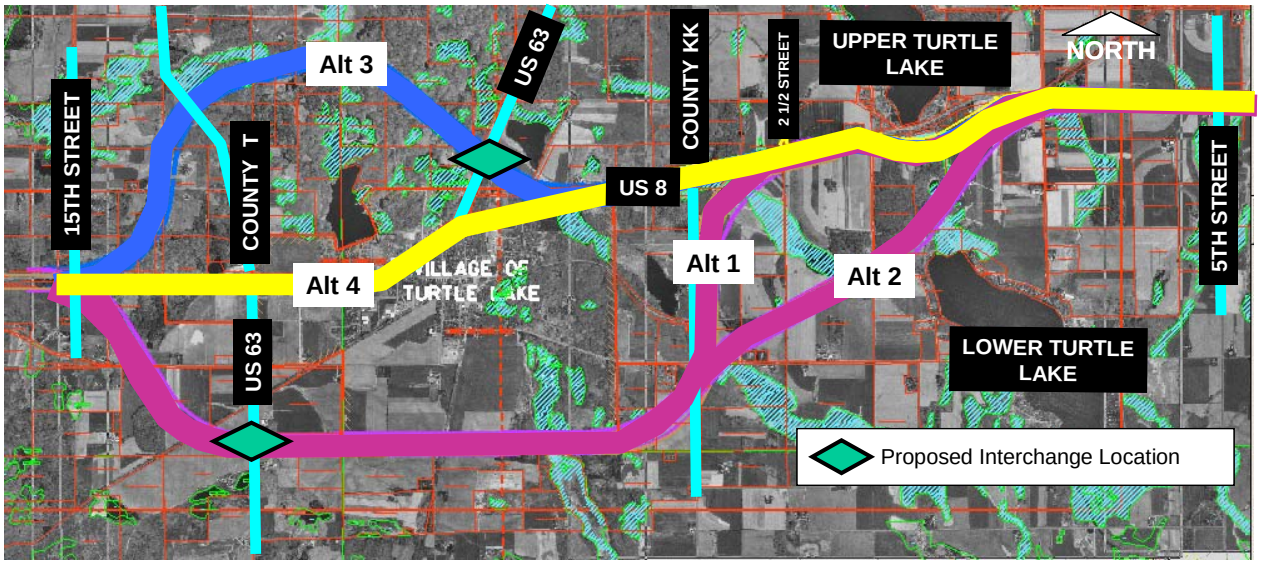

Figure 2.2.4.5-1 Segment V – 15th Street to 5th Street

- **Turtle Lake Alternative 1 (Short South Bypass)** (carried forward for detailed study)

A. Description of Alternative

Alternative 1 is one of two south bypass alternatives for this segment. This alternative begins on existing US 8 near 15th Street and swings southeasterly for about 1.4 miles (2.3 km). At this point,

the bypass is approximately one mile (1.6 km) south of the existing US 8 corridor and runs east for about 2.4 miles (3.9 km). The alignment then turns north and extends 1.5 miles (2.4 km) toward US 8. The bypass corridor then turns east and matches with existing US 8 just east of 2 ½ Street. The corridor then follows the existing alignment until 3rd Street where it shifts south to avoid impacts to Upper Turtle Lake. The corridor then continues easterly and south of existing US 8 until 3 ¼ Street where it rejoins existing US 8 and continues east to 5th Street.

Access to existing US 8 from the bypass corridor would be provided by at-grade intersections near 15th Street and 2 ½ Street. An interchange would provide access at US 63 (S). Grade-separated crossings would be provided but no direct access onto the expressway. Existing US 8 would become a local street from 15th Street to 2 ½ Street and from 3rd Street and 3 ½ Street. The total length of roadway between 15th Street and 5th Street is 8.5 miles (13.7 km), with 7.5 miles (12.1 km) of new roadway along the bypass.

A related improvement that could be proposed as part of Turtle Lake Alternative 1 is the US 63 Bypass Improvement. This corridor would allow US 63 traffic to bypass Turtle Lake on the east side of the village. Instead of traveling through the village on US 63, vehicles could travel around Turtle Lake. Beginning at the US 8 interchange with US 63 (S), US 63 would run concurrently with the US 8 bypass to the east and would continue north until another interchange that would be located near existing US 8 and County KK. Traffic would continue north on a two-lane roadway until it matched with existing US 63 north of Turtle Lake. The length of new roadway for US 63 is 1.6 miles (2.6 km). Figure 2.2.4.5-2 illustrates the US 63 Bypass Improvement.

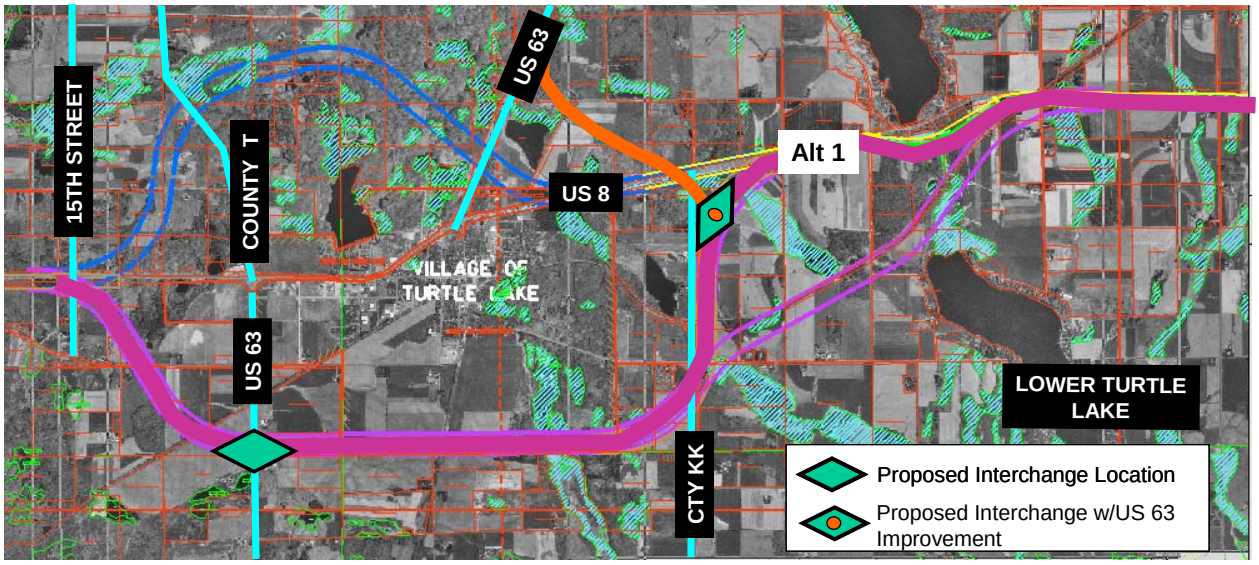

Figure 2.2.4.5-2 Turtle Lake Alternative 1 and Potential US 63 Bypass Improvement

B. Projected Effects of Alternative

Between 15th Street and 2 ½ Street, Turtle Lake Alternative 1 would construct a new roadway to bypass the Village of Turtle Lake. From approximately 3rd Street to 4th Street, a new roadway would be constructed slightly south of existing US 8 to avoid impacts to Upper Turtle Lake and a boat launch. New structures would be required at South Branch Beaver Brook and Turtle Creek. From 4th Street to 5th Street the existing roadway would be used for westbound traffic and two new lanes would be constructed south of the existing road. This alternative would also cross the WDNR Cattail Trail at four locations. Grade-separated structures would be required at US 63 (S), Pine Street, and County K.

The corridor location between Upper and Lower Turtle Lake would impact two potentially eligible archaeological sites but avoids four potentially eligible sites and one eligible site. Compared to the other alternatives, Alternative 1 impacts the most farm acreage and the second highest number of relocations. This alternative would also substantially impact the Dairyland Power Cooperative utility lines with a cost to relocate the utilities estimated at $750,000, the same as Turtle Lake Alternatives 3 and 4.

Table 2.2.4.5-1 illustrates the land requirements and relocations for the Turtle Lake Alternative 1.

Table 2.2.4.5-1

Turtle Lake Alternative 1 (Short South Bypass)
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	352.8	142.8
Wetlands	26.7	10.8
Wooded	10.3	4.2
Other	126.7	51.3
Total New Right-of-Way	516.5	209
Relocations	0 Businesses, 11 Residential	
Dairyland Power Cooperative	$750,000	

C. Purpose and Need Analysis

1. Corridors 2020 and Future LOS

Traffic volumes through the urban segment of Turtle Lake are projected to grow from about 12,200 ADT to about 16,200 ADT in 2030. In 2002, WisDOT conducted an origin-destination (OD) study to determine the amount of traffic that would use a south bypass around the Village of Turtle Lake. The OD study results indicate that approximately one third of the traffic would use a south bypass. The OD study is included in Appendix A. East of Turtle Lake in the rural portion of Segment V, traffic volumes are projected to grow from 7,500 ADT to 10,900 ADT. According to WisDOT's FDM, a four-lane divided roadway should adequately handle between 8,700 and 44,000 ADT. Therefore, this bypass would have adequate capacity.

Currently, US 8 through the village of Turtle Lake is a four-lane undivided roadway with a posted speed limit of 35 mph (56.3 km/hr). According to the FDM, four-lane undivided roadways can handle between 16,000 ADT and 36,000 ADT. Traffic analysis indicates that in 2030, without a bypass, the US 8 corridor through the Village of Turtle Lake will operate at an acceptable level of service (LOS) B. Side-street traffic with stop-control will experience substantial delays at intersections. With one third of the traffic using the bypass under this alternative as the OD study indicates, stop-controlled intersections that had operational problems without a bypass will operate between LOS A and C with a bypass.

2. Long-Term Planning and Corridor Preservation

This alternative addresses long-term planning by defining the future location and type of access along US 8. This information can be used by local governmental units along the corridor in developing local transportation and comprehensive plans and determining the appropriate location of transportation supportive land uses. This alternative identifies a future corridor for US 8 that can be preserved through the use of expressway/freeway designation, official mapping, and access management. If WisDOT chooses this alternative as the preferred alternative, the village will be able to use this study to develop comprehensive plans knowing there is a US 8 corridor planned south of the community.

3. Crash Rate Reduction

Crash rates for this alternative will likely decrease. The crash rates for this segment exceeded the statewide average crash rates for urban streets in two of the five years that crashes were analyzed. With approximately a third of the traffic on the bypass, the crash rate for existing US 8 would likely decrease. Crash rates on the bypass segment would be lower because of restricted access. The expressway would likely have a weighted average crash rate that is below the statewide average.

4. Correct Substandard Roadway items

Turtle Lake Alternative 1 will correct existing roadway deficiencies that are on US 8 by either bypassing or reconstructing them. Currently, there are four areas that were found to have deficient SSD requirements between 15th Street and 5th Street.

5. Public Support

Concerns about the large number of relocations and loss of agricultural land have been voiced through written comments, phone calls and at public information meetings. Many of the business owners did not support a bypass of Turtle Lake because they feel it would negatively affect their businesses. Some residents and local officials provided written comments that support Alternative 1. They felt it would be advantageous for the village for growth and transportation planning. The Village passed a resolution supporting a through-town alternative.

6. Summary of Purpose and Need

Table 2.2.4.5-2 summarizes how Alternative 1 addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.5-2

Turtle Lake Alternative 1 (Short South Bypass)
Summary Purpose and Need Analysis

Criteria	Turtle Lake Alternative 1 (Short South Bypass)
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Village of Turtle Lake	No
Town of Beaver	No
Town of Almena	No
Area residents and businesses	Yes and No
US 8 Coalition	No

- **Turtle Lake Alternative 2 (Long South Bypass)** (carried forward for detailed study)

A. Description of Alternative

Turtle Lake Alternative 2 is the second south bypass alternative for Turtle Lake. From 15th Street to about County K, Alternative 2 follows the same bypass route as Alternative 1. East of County K, the corridor swings northeasterly to connect with existing US 8 at 4th Street. From 4th to 5th Street, the alignment follows the same alignment as Alternative 1. Figure 2.2.4.5-3 illustrates this alternative.

Access to existing US 8 from the bypass corridor would be provided by at-grade intersections near 15th Street and 4th Street. An interchange would provide access at US 63 (S). Grade-separated crossings would be provided but no direct access onto the expressway. Existing US 8 would become a local street from 15th Street to 4th Street. The total length of roadway between 15th Street and 5th street along this route is 7.6 miles (12.2 km), with 6.8 miles (10.9 km) of new roadway along the bypass.

A related improvement that may be proposed as part of Alternative 2 is US 63 Bypass Improvement. Similar to the discussion under Alternative 1, it would allow US 63 to bypass Turtle Lake on the east side of the village. Instead of vehicles traveling through the village on US 63, they would travel around Turtle Lake. Beginning at the US 8 bypass interchange with US 63 (S), US 63 would run concurrently with the US 8 bypass and continue north at another interchange located near County K. The road would then continue on County K as a two-lane roadway until it matched with existing US 63 north of Turtle Lake. The length of new roadway, starting from the second interchange to where it matches in with existing US 63, is 2.5 miles (4.0 km). Figure 2.2.4.5-3 illustrates the potential US 63 Bypass Improvement related to Alternative 2.

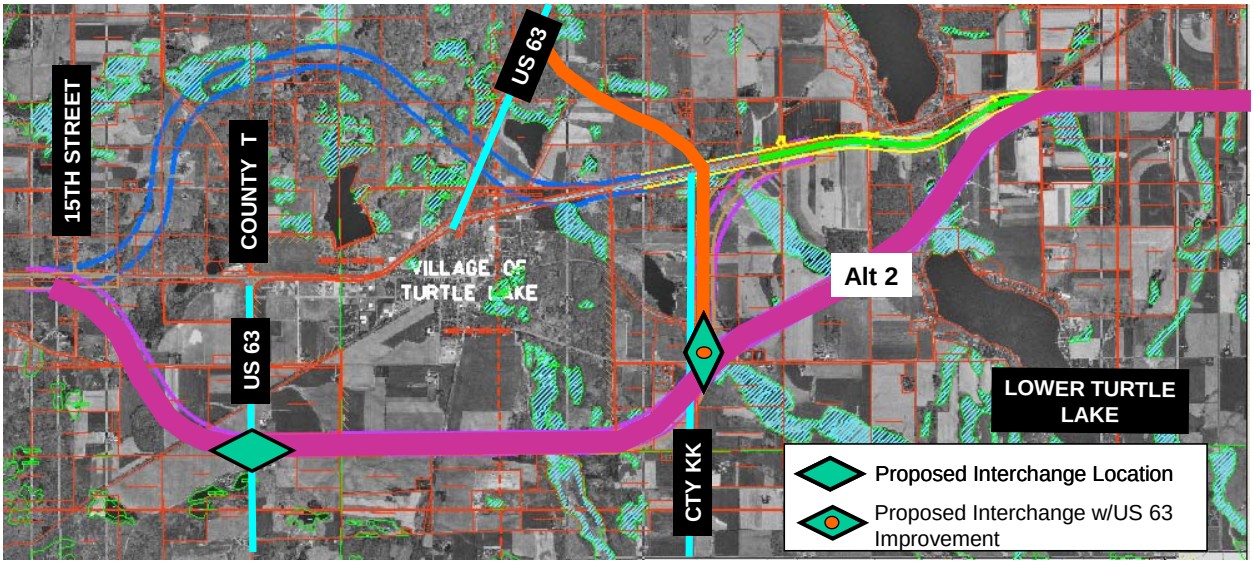

Figure 2.2.4.5-3 Turtle Lake Alternative 2 and Potential US 63 Bypass Improvement

B. Projected Effects of Alternative

Between 15th Street and 4th Street, Turtle Lake Alternative 2 requires a new roadway as it bypasses the Village of Turtle Lake. Just east of 4th Street, the bypass matches in with existing US 8. From there to 5th Street, the existing corridor is utilized as westbound lanes, and two new lanes are constructed south of the existing as eastbound lanes. New structures would be required at South Branch Beaver Brook and Turtle Creek. This alternative also crosses the WDNR Cattail Trail at three locations and requires grade-separated structures at US 63 (S), Pine Street, and County K. With this improvement, County KK would need to be improved to meet WisDOT 's A2 design standards.

Turtle Lake Alternative 2 avoids impacts to archaeological sites that are located south of Upper Turtle Lake, but does impact one potentially eligible archaeological site. This alternative requires slightly less agricultural land than Turtle Lake Alternative 1 but substantially more than alternatives 3 and 4. This alternative also has the most impacts to wetlands, as compared to other Turtle Lake alternatives. The number of relocations is similar to alternative 3 and 4 and is less than Turtle Lake Alternative 1. Although there are still impacts to the Dairyland Power Cooperative utilities, costs for Alternative 2 are lowest compared to the other Turtle Lake alternatives.

Table 2.2.4.5-3 illustrates the land requirements and relocations for Turtle Lake Alternative 2.

Table 2.2.4.5-3

Turtle Lake Alternative 2 (Long South Bypass)
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	327	132.3
Wetlands	43.7	17.7
Wooded	44.6	18
Other	119.8	48.5
Total New Right-of-Way	535.1	216.5
Relocations	0 Businesses, 7 residential	
Dairyland Power Cooperative	$167,000	

C. Purpose and Need Analysis

Turtle Lake Alternative 2 meets the purpose and need criteria (1. through 4.) similar to Turtle Lake Alternative 1. However, the public support for Alternative 2 differs slightly from the public support for Alternative 1.

5. Public Support

Some of the public comments received from public information meetings in February and June 2003 support Turtle Lake Alternative 2. Those in favor of Alternative 2 commented that they thought it would follow the growth and expansion pattern of the Village and that it was a logical location for the roadway. Other comments stated that this alternative is too long and that it would be easier to travel through the Village. When the US 8 coalition voted on the alternatives in December 2003, the result was a three-way tie between Alternatives 2, 3, and 4.

6. Summary of Purpose and Need

Table 2.2.4.5-4 summarizes how Alternative 2 meets the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.5-4

Turtle Lake Alternative 2 (Long South Bypass)
Summary Purpose and Need Analysis

Criteria	Turtle Lake Alternative 2 (Long South Bypass)
Addresses the Corridors 2020 Plan by accommodating future LOS needs	Yes
Long-term planning and corridor preservation	Yes
Reduce crash rates	Yes
Correct substandard roadway items	Yes
Public support from:	
Village of Turtle Lake	No
Town of Beaver	No
Town of Almena	No
Area residents and businesses	Yes and No
US 8 Coalition	Yes and No

- **Turtle Lake Alternative 3 (North Bypass)** (carried forward for detailed study)

A. Description of Alternative

Alternative 3 is a north bypass of Turtle Lake. This alternative starts at 15th Street, extends north for approximately one mile (1.6 km), and then runs east and parallel along the south side of North Branch Beaver Brook. After crossing County Line Street, the route runs southeast between Hillman Lake and Elbow Lake to connect back with existing US 8 east of Poplar Street. At this point, the alignment follows existing US 8 to 3rd Street. From 3rd Street to 4th Street, the alignment is shifted south to avoid impacts to Upper Turtle Lake. The roadway remains on the existing alignment from 4th Street to 5th Street. From 3rd Street to 3 ¼ Street, the section where the alignment shifts south, the existing US 8 roadway would become a frontage road for access to Upper Turtle Lake. The frontage road would access the new US 8 corridor near 3rd Street and 3 ¼ Street.

Access to existing US 8 from the bypass corridor would be provided by at-grade intersections near 15th Street and Poplar Street. An interchange would provide access at US 63 (N). Grade-separated crossings would be provided but no direct access onto the expressway. Existing US 8 would become a local street from 15th Street to Poplar Street The total length of roadway between 15th Street and 5th Street is 7.6 miles (12.2 km), with 3.7 miles (6.0 km) of new roadway along the bypass. Figure 2.2.4.5-1 illustrates the location of Alternative 3.

B. Projected Effects of Alternative

Between 15th Street and Poplar Street, Turtle Lake Alternative 3 builds a new roadway as it bypasses the village of Turtle Lake. East of Poplar Street, the bypass matches in with existing US 8. From Poplar Street to 3rd Street and from 4th Street to 5th Street, this alternative utilizes the existing roadway as westbound lanes, and two new lanes are constructed to the south of existing for eastbound lanes. From 3rd Street to 4th Street, a new roadway is constructed and the US 8 alignment moves south to avoid impacts to Upper Turtle Lake and a boat launch. This alternative crosses the WDNR Cattail Trail at one location. A new structure would be required over the North Branch Beaver Brook and at the US 63 (N) interchange. Other structures that would be required are either under- or overpasses at County T and Polk-Barron Street.

The section of roadway shifted south between Upper and Lower Turtle Lakes impacts two potentially eligible archaeological sites. However, it also avoids four potentially eligible sites and one eligible site. This bypass does not impact as much agricultural land as Alternatives 1 or 2, but it does affect the most forested acreage and the second most wetland acreage when compared to the other Turtle Lake alternatives. The cost to relocate Dairyland Power Utilities is the same as Alternatives 1 and 4.

Table 2.2.4.5-5 describes the land requirements and relocations for the Turtle Lake North Bypass Alternative 3.

Table 2.2.4.5-5

Turtle Lake Alternative 3 (North Bypass)
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	150.8	61
Wetlands	30.8	12.5
Wooded	53.8	21.8
Other	225.1	91.1
Total New Right-of-Way	460.5	186.4
Relocations	1 Businesses, 11 Residential	
Dairyland Power Cooperative	$750,000	

C. Purpose and Need Analysis

Turtle Lake Alternative 3 meets the same purpose and need criteria (1. through 4.) similar to Turtle Lake Alternatives 1 and 2. One aspect of the purpose and need criteria that is different is the public support for this alternative.

5. Public Support

Turtle Lake Alternative 3 did not have much support from public information meetings held in February and June 2003. Many felt that the north route was not desirable because of wetland and wildlife habitat impacts. They also commented that the north route would not allow for growth of the town. However, some area residents on the south side of the village would prefer this alternative over Alternatives 1 and 2. About a third of the US 8 Coalition members favored this bypass.

6. Summary of Purpose and Need

Table 2.2.4.5-6 summarizes how Turtle Lake Alternative 3 addresses the purpose and need criteria. This alternative was carried forward for detailed study because it meets the criteria for purpose and need.

Table 2.2.4.5-6

Turtle Lake Alternative 3 (North Bypass)
Summary Purpose and Need Analysis

Criteria		Turtle Lake Alternative 3 (North Bypass)
Addresses the Corridors 2020 Plan by accommodating future LOS needs		Yes
Long-term planning and corridor preservation		Yes
Reduce crash rates		Yes
Correct substandard roadway items		Yes
Public support from:		
	Village of Turtle Lake	No
	Town of Beaver	No
	Town of Almena	No
	Area residents and businesses	Yes and No
	US 8 Coalition	Yes and No

- **Turtle Lake Alternative 4 (Through-town)** (carried forward for detailed study)

A. Description of Alternative

Alternative 4 is on existing alignment from 15th Street to 5th Street but provides a four-lane divided urban roadway through the Village of Turtle Lake. The alternative would require a 120-foot (36.6 m) corridor. From 3rd Street to 4th Street, the alignment shifts away from Upper Turtle Lake along the same route as Alternatives 1, and 3. Within the Village, Alternative 4 is a divided urban roadway would include a curbed median, designated left turn lanes, and curb and gutter. The total length of this alternative (from 15th Street to 5th Street) is 6.8 miles (10.9 km). Access to and from most businesses along US 8 will be restricted and vehicles will have to enter and exit via frontage roads that parallel US 8. Figure 2.2.4.5-1 illustrates this alternative through-town route.

B. Projected Effects of Alternative

The through-town route utilizes as much of the existing roadway as possible. A new frontage road, between Western Boulevard and County K, would be constructed to access businesses on the

south side of US 8. This alternative crosses the WDNR Cattail Trail at one location and there are no new structures required for Turtle Lake Alternative 4.

The roadway between Upper and Lower Turtle Lake impacts two potentially eligible archaeological sites, but like other alternatives, it avoids four potentially eligible sites and one eligible site. The amount of agricultural land, wetland, wooded areas, and right-of-way impacts is much less for this alternative than Alternatives 1, 2, and 3. Relocation impacts are also less with this alternative with one business and 5 residential relocations. Costs for relocating Dairyland Power utilities are the same as Alternatives 1 and 3.

Table 2.2.4.5-7 describes the land requirements and relocations for the Turtle Lake Through-town Alternative.

Table 2.2.4.5-7

Turtle Lake Alternative 4 (Through-town)
Land Requirements and Relocations Summary

Type of Land	Required Acres	Required Hectares
Agricultural	77.3	31.3
Wetlands	3.9	1.6
Wooded	1.1	0.4
Other	32.2	13
Total New Right-of-Way	114.5	46.3
Relocations	1 Businesses, 8 Residential	
Dairyland Power Cooperative	$750,000	

C. Purpose and Need Analysis

1. Corridors 2020 and Future LOS

Traffic volumes in this urban segment are projected to grow from about 12,200 ADT to about 16,200 ADT in 2030. East of Turtle Lake in the rural portion of Segment V, traffic volumes are projected to grow from 7,500 ADT to 10,900 ADT. According to the WisDOT's FDM, a four-lane divided roadway should adequately handle between 8,700 and 44,000 ADT. Therefore, a four-lane divided roadway will give this section the capacity to handle projected traffic.

Currently, US 8 is a four-lane undivided roadway with a posted speed limit of 35 mph (56.3 km/hr) through the village of Turtle Lake. Traffic analysis indicates that in 2030, the US 8 corridor through the village of Turtle Lake will operate at LOS B. However, due to increasing traffic, side-street traffic with stop-control will experience substantial delays at intersections.

2. Long-Term Planning and Corridor Preservation

This alternative addresses long-term planning by defining the future location and type of access along US 8. This information can be used by local governmental units along the corridor in developing local transportation and comprehensive plans and determining the appropriate location of transportation supportive land uses. This alternative identifies a future corridor for US 8 that can be preserved through the use of expressway/freeway designation, official mapping, and access management.

3. Crash Rate Reduction

Crash rates for this alternative will likely decrease. The crash rates for this segment exceeded the statewide average crash rates for urban streets in two of the five years that crashes were analyzed. Crash statistics show that when converting a four-lane undivided roadway to a four-lane divided roadway, crash rates decrease. This is indicated with Wisconsin's statewide averages of four-lane undivided and four-lane divided roads. Between 1996 and 2000, the average crash rate for a four-